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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/431,758	11/01/1999	JOSEPH G. MURPHY	07072-919001	9176

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EXAMINER	
HUNT, ERIC T	

ART UNIT	PAPER NUMBER
2142	

DATE MAILED: 12/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/431,758	Applicant(s) MURPHY ET AL.	
	Examiner Eric T. Hunt	Art Unit 2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8, 10-12, 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,253,240 to Axberg et al. in view U.S. Patent No. 6,131,112 to Lewis et al.

3. Axberg teaches a network architecture **[storage network column 2, line 65]** comprising: a storage system including a plurality of storage devices **[multiple storage devices column 2, lines 65-66]**;

a plurality of host computers **[multiple host computers column 2, lines 65-66]**, each host computer including at least one agent for transmitting data to and retrieving data **[gather and communicate column 3, lines 5-7]** from one or more of the plurality of storage devices **[column 3, lines 10-12];**

one or more storage management servers **[column 7, lines 1-2, figure 3 storage network manager 110]** in communication with, at least one agent, the plurality of clients and the plurality of storage devices **[figure 1, storage network manager 110 & storage devices 120-129]**, the one or more storage management servers providing information received from an agent and relating to the operation status **[error conditions column 8, lines 24-30]** of the storage devices to at least one of the clients **[Axberg user column 10, lines 1-2].** Furthermore, the prior art clearly discloses, in figure 1, a storage network comprising storage devices coupled to network storage controllers **[Axberg column 4, lines 33-35].**

Axberg does not teach a plurality of clients. However in art related to network and systems management, Lewis teaches SMP and NMP clients **[figure 4, NMP client 41 & SMP client 51]** where the teachings of Axberg falls silent. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Axberg with the plurality of clients as taught by Lewis because the correlation of data shared by multiple clients contributes to the accurate determination of faults within managed network elements.

4. Regarding claim 2, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg further teaches wherein the storage management server includes:

a poller **[Axberg agent column 8, lines 27-30]** for gathering the information relating to the operation status **[Axberg error conditions column 8, lines 24-30]** of the storage device; and

a central repository for storing the information relating to the operation status of said one of the storage devices **[Axberg column 3, lines 62-64]**; and

an object server **[Axberg column 9, lines 52-53]** for distributing the information relating to the operation status **[Axberg events column 9, lines 65-67 & column 10, line 1]** of the storage devices to the clients **[Axberg user column 10, lines 1-2].**

5. Regarding claim 3, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg further teaches wherein the poller polls each of the storage devices at predetermined intervals to maintain the current status of the operation of each of the storage devices **[Axberg column 19, lines 36-39].**

6. Regarding claim 4, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg further teaches wherein the predetermined interval is less than or equal to one minute **[Axberg column 19, lines 36-39].**

7. Regarding claim 5, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg further teaches wherein the storage management server further provides information relating to the operation status **[Axberg** storage management programs data gathering and monitoring function which can send a message to a Vdevice object causing its display to change in response to some event occurring on the network corresponding to providing information relating to operational status, **column 10, lines 42-46]** of storage connectivity devices **[Axberg column 11 lines 12-17]** which connect storage devices to the clients **[Axberg user column 10, lines 1-2]**.

8. Regarding claim 6, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg further teaches wherein the storage management server includes: a poller for gathering the information relating to the operation status of the storage device and storage connectivity devices **[Axberg interconnecting relationships between physical objects column 9, lines 53-56 & column 11 lines 12-17]**; and a central repository for storing the information relating to the operation status **[Axberg error conditions column 8, lines 24-30]** of said one of the storage devices and storage connectivity devices **[Axberg column 3, lines 62-64]**; and an object server for distributing the information relating to the operation status **[events column 9, lines 65-67 & column 10, line 1]** of the storage devices and storage connectivity devices to the clients **[Axberg user column 10, lines 1-2]**.

9. Regarding claim 7, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg further teaches wherein the poller polls each of the storage connectivity devices **[Axberg column 11 lines 12-17];** at predetermined intervals to maintain the current status of the operation **[Axberg column 19, lines 36-39]** of each of the storage connectivity devices **[Axberg column 19 lines 30-39 and column 20, lines 24-33]**.

10. Regarding claim 8, Axberg and Lewis teach the invention substantially as claimed as noted above. Lewis further teaches a security component for limiting access by a client to one or more of the storage devices **[Lewis column 6, lines 6-8].**

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Axberg and Lewis as applied to claim 1 above, and further in view of U.S. Patent No. 5,999,973 to Glitho et al.

12. Regarding claim 9, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg and Lewis do not teach wherein the storage management server further includes a web server for communicating with the plurality of clients.

However, in art related to web technology to manage stored data in a network element, Glitho teaches maintaining integrity and security of data stored and permitting external entity data access through a web server **[Glitho column 2, lines 51-56 & column 5, lines 59-60]** corresponding to the storage management server communicating with a plurality of clients. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Axberg and Lewis with the web server as taught by Glitho because it allows external entities an economical and user-friendly mechanism to access data over the internet.

13. Regarding claim 10, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg and Lewis further teach wherein each of the clients includes a graphical user interface **[Axberg column 27, line 25 V. The User interface & lines 34-36]** for displaying the information relating to the operation status [events column 9, lines 65-67 & column 10, line 1] of the storage devices **[Axberg column 28, lines 15-19]**.

14. Regarding claim 11, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg and Lewis further teach wherein the plurality of host computers are of different types **[Axberg column 8, lines 20-23]**.

15. Regarding claim 12, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg and Lewis further teach wherein the plurality of storage devices are of different types **[Axberg column 6, lines 53-60].**

16. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Axberg and Lewis as applied to claim 1 above, and further in view of U.S. Patent No. 6,330,572 to Sitka.

17. Regarding claim 13, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg and Lewis teach comprising a storage management server connected between the host computers **[Axberg figure 3, storage management 331]** and the plurality of clients **[Lewis figure 4, NMP client 41 & SMP client 51]**, each storage management server, providing information relating to the operation status **[Axberg events column 9, lines 65-67 & column 10, line 1 & column 8, lines 24-30]** of said one of the storage devices to at least one of the clients **[Axberg user column 10, lines 1-2]**. Axberg and Lewis do not teach a plurality of storage management servers.

However, in art related to hierarchical storage management, Sitka teaches a plurality of storage management servers **[Sitka figure 7 DSM server 14 & DSM server 14b]**. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Axberg and Lewis with the plurality of storage management servers as taught by Sitka because it would provide addition methods of access and levels of security.

18. Claim 14 contains similar limitations corresponding to the apparatus as claimed in claims 2 and 13; therefore claim 14 is rejected under the same rationale.

19. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Axberg and Lewis as applied to claim 1 above, and further in view of U.S. Patent 5,854,102 to McChesney.

20. Regarding claim 15, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg and Lewis do not teach a name server, connected to each of the plurality of storage management servers to determine which of the central repositories of the plurality of storage management servers includes the information relating to the operation status of said one of the storage devices.

However, in art related to manipulating information of servers, McChesney teaches a naming server included in each server **[McChesney column 5, lines 63-64]** and managed objects associated with each network device **[McChesney column 2, lines 9-12]** an association between an arbitrary object name **[McChesney column 5, lines 48-49]** corresponding the operation status, and an object reference uniquely identifying an object within a server **[McChesney column 5, lines 49-50]** corresponding to central repositories of the plurality of storage management servers. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Axberg and Lewis with the naming

server as taught by McChesney because it allows client entities to access objects from anywhere on the network without knowledge of object implementation details.

21. Regarding claim 16, Axberg and Lewis teach the invention substantially as claimed as noted above. Axberg and Lewis further teach providing a storage management server between a plurality of clients Lewis teaches SMP and NMP clients **[Lewis figure 4, NMP client 41 & SMP client 51]** and the plurality of storage devices **[Axberg figure 1, storage network manager 110 & storage devices 120-129]**;

providing to the storage management server from the at least one agent information relating to the configuration of the storage system **[Axberg column 7, lines 2-5]**;

collect, from the storage management server, information relating to the configuration of the storage system **[Axberg column 3, lines 16-21]**; and providing by the storage management server, the information to at least one of the clients **[Axberg column 9, line 62-67 & column 10, line 1]**.

22. Claims 14, 17, and 18 are method claims that contain similar limitations corresponding to the apparatus as claimed in claim 2; therefore claims 14, 17, and 18 are rejected under the same rationale.

23. Claims 19 and 20 are method claims that contain similar limitations corresponding to the apparatus as claimed in claims 3 and 5 respectively; therefore claims 19 and 20 are rejected under the same rationale

Response to Arguments

24. Applicant's arguments filed on 09/30/2002 have been fully considered but they are not persuasive.

25. In substance the applicant argued:

A) That there is no teaching or suggestion in either reference to make any modification to Axberg in view of Lewis.

B) The prior art does not teach or suggest a network architecture comprising a storage system.

C) The prior art teach or suggest the storage management server providing information and relating to the operation status of the storage devices to at least one of the clients.

D) The prior art does not teach or suggest providing to the storage management server from the at least one agent information relating to the configuration of the storage system which is provided by the server to the clients.

Prior to responding to applicant's arguments, it is noted that a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)

As to point A) that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the knowledge generally available to one of ordinary skill in the art supports the assertion that it would be obvious at the time the invention was made to combine the references. Additionally,

the correlation of data as provided to multiple clients in the prior art provides more effective monitoring and management for multiple platforms.

As to point B), Axberg particularly points out that the invention is drawn to the management of networks of digital data storage devices **[Axberg column 1, lines 8-9]**. Furthermore, the prior art clearly discloses, in figure 1, a storage network comprising storage devices coupled to network storage controllers **[Axberg column 4, lines 33-35].**

As to point C), the prior art discloses storage management programs data gathering and monitoring function which can send a message to a Vdevice object causing its display to change in response to some event occurring on the network corresponding to providing information relating to operational status **[Axberg column 10, lines 42-46]**.

As to point D), The prior art discloses the agents poll the hosts and I/O controllers to determine the existing topology of a storage network, can monitor and report error conditions **[Axberg column 7, lines 2-5].** The prior art further teaches a client library and canvas corresponding to a client to which errors are reported or displayed **[Axberg column 11, 34-39].**

Conclusion

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric T. Hunt whose telephone number is 703-305-4868. The examiner can normally be reached on 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Powell can be reached on 703-305-9703. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

E.H
December 5, 2002

MARK POWELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100